

**REMARKS**

Claims 1-4, 7, and 10-11 are all the claims pending in the application. By way of this amendment, Applicants are canceling claims 8 and 9, and adding new claims 10 and 11 to further define the invention as discussed in detail below.

Claim 9 is rejected under 35 U.S.C. § 112, first paragraph. This claim is canceled and thus, the rejection is now moot.

Claim 7 is rejected under 35 U.S.C. § 112, second paragraph. Applicants submit that a second controller is used for keeping an interval between scanning positions to a predetermined value. Claim 7 has been amended to remove any ambiguities.

Claim 8 is rejected under 35 U.S.C. § 102(b) as being anticipated by Kitamura (4,393,387).

Claims 1, 4 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakajima et al. (5,999,345) in view of Kitamura (4,393,387).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakajima et al. (5,999,345) in view of Kitamura (4,393,387), as applied to claim 1, and further in view of Motoi (5,539,719).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakajima et al. (5,999,345) in view of Arimoto et al. (4,806,951).

**Analysis**

Independent claims 1 and 4 are rejected as being unpatentable over Nakajima and Kitamura.

As noted by the Examiner, Nakajima completely fails to disclose the equation governing the inclination angle of the present invention. However, the Examiner turns to Kitamura for this feature, and submits that it would have been obvious to control the inclination angle based on the equation “since such adjustment is an old and well known practice in the printing art”.

However, there is no objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). Although an equation governing angle inclination is provided in Kitamura, Kitamura is directed to a device having only one semiconductor light source with a plurality of light emitting devices. As discussed in the background portion of the application, the use of more than one laser light source is characterized by a difficulty in detecting and maintaining the accuracy of beam pitches or intervals during printer operation. Nakajima is directed to a device having more than one semiconductor light source. Thus, one of ordinary skill in the art would not have been motivated to control the inclination based on the single laser light source device of Kitamura.

In view of the foregoing, claims 1 and 4 are patentable.

Claim 3 is rejected as being unpatentable over the combination of Nakajima and Arimoto. Nakajima discloses a line sensor 411 that is disposed so as to extend toward the sub-scanning direction for determining if the scanning line intervals are changed, for maintaining a constant interval. Thus, this reference fails to disclose the use of a polarizing prism that irradiates light to photodetectors that detect positions of the output beams.

The Examiner now cites Arimoto to supplement this deficiency of Nakajima, and submits that it would have been obvious to incorporate the photodetectors and the polarizing prism of

Arimoto so “that the interval between the scanning lines is accurately adjusted to a desired value”.

However, the photodetectors and prism 10 of Arimoto do not detect the positions of the output beams as in the claimed invention. The photodetectors A-A4 and prism 10 do not detect the positions in a direction perpendicular to a scanning direction of the output beams of each light source as in the invention according to claim 3. Thus, the combination of references fails to arrive at claim 3.

The remaining rejections are directed to the dependent claims 2 and 7. These claims are patentable for at least the same reasons as claim 1, by virtue of their dependency therefrom.

Finally, Applicants add claims 10 and 11 to further define the invention. These claims are directed to the first and second controllers. A predetermined interval is provided between scanning beams and an interval between adjacent light emitting devices of the first and second light source are equal to each other. The combination of cited references fail to disclose this aspect of the invention, thus, claims 10 and 11 are patentable.


### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116  
U.S. Appln. No. 09/810,217

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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